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NASA/MARSHALL SPACE FLIGHT CENTER
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EXAMINER

STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/728,407	Applicant(s) RICKS ET AL.	
	Examiner Thomas H. Stevens	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13 and 15-25 is/are pending in the application.
 4a) Of the above claim(s) 2 and 14 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,3-13 and 15-25 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Section I

Response to Applicant's Arguments

Drawings

1. Applicant is thanked for addressing this issue. In light of applicant's amendments, objection is rescinded.

37 C.F.R. 1.132

2. Examiner acknowledges applicant's 37 C.F.R 1.132 but finds the disclosure is incomplete for the following reasons: applicant has not mapped his invention to the claims; has not demonstrated the reasoning for its success; nor has disclosed proof of commercial success of this product. See *Minnesota Mining and Manufacturing Co. v. Johnson & Johnson Orthopedics, Inc.*, 24 USPQ 2d 1321 (Fed. Cir. 1992). Subsequently, the inventor has not provided a resume as stated in the 1.132.

Request for Telephone Conference

3. The examiner acknowledges applicant's request for a telephone interview but is non-persuasive in view of the prior art used in the rejection; interview is denied.

35 U.S.C. 103

4. Applicant's are thanked for addressing this issue. However, applicant's remarks to negate this rejection are non-persuasive. Applicant's state Well and Dome do not teach "hardware in a loop". Additionally, applicant states Wells teaches firmware not hardware. Examiner concludes applicant's remarks as skeletal since applicant has not expanded this point with pertinent examples of the differences between the two pieces of art.

Wells states these electronic simulation programs "*require that the algebraic loop be transversed many times until a certain local error tolerance is achieved*". Wells does state on pg. 510, left column, 2nd paragraph the "*...necessary condition for real-time operation is that the execution be predictable with completion of all segments of computation occurring within strictly specified time frames*"; to add, figure 11 details the SNBC allocation of the sub-model.

Examiner is unclear to applicant's points on pg. 16 last paragraph regarding firmware versus software.

Examiner disagrees with applicant's statement of the prior not teaching a "continuous process", in which Well states on page 509, right column, 1st paragraph, lines 9-16.

Examiner disagrees with applicant's statement of the prior art not teaching "a set of nodes... a continuous process". Summarily, the applicant has not provided detailed explanations to these rejections. Therefore the rejection stands.

Section II

(Second Office Action)

Rejections

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
6. Regarding claims 5-11 the word "system" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention and is ambiguous as far as statutory type. See MPEP § 2173.05(d).
7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-25 are rejected under 35 U.S.C. 103 (a) as unpatentable by Wells et al. ("Parallel Simulation of a Large Aerospace System Multicomputer Environment" (1997)), in view of DOME Guide (Honeywell Software 1998).

Wells et al. teaches parallel simulation of hardware platforms within a test-bed aerospace system of multiprocessors in real-time; but doesn't expressly teach arcs between nodes.

DOME (Domain Modeling Environment) teaches a tool-set which is extensible collection of integrated model-editing, metamodeling and analysis tools supporting a model-based development approach to system/software engineering (pg.2, first paragraph), which also includes simulation (pg. 4, line 9); and inherently teaches arcs between nodes (DOME: pg. 65, figure 28).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use DOME to modify Wells et al. since arcing is an inherent graphical representation (DOME: pg. 65, figure 28). Since its inherent, it must be considered.

Claim 1: A system for enabling a user to create on a computer workstation a visually displayed architectural description of a computer simulation (Wells: pg. 507, lines 11-17) of a real system comprising:

a. a standardized set of graphical node elements (DOME: pg. 12) representing each of a plurality of pre-defined real system components, the real system components including processes and real system hardware associated with the real system (Wells: pg. 508, right column, lines 21-22); wherein the real system components represented by the standard set of node elements include external hardware devices, periodic process, aperiodic process and continuous process (Wells: pg. 514, left column, Task Allocation, lines 14-3).

b. a standardized set of graphical arc elements (Wells: pg. 519, table I, base topology; Note: specification defines arc elements as "real system functional relationships" pg. 21, lines 19-20) representing each of a plurality of pre-defined timing (Wells: pg. 510, left column, lines 3-9 and 37-39) control, and data relationships that can be associated with the pre-defined real system components (Dome: pg. 6, Domain Specific Notations);

c. each of the graphical node elements (Note: specification defines arc elements as "real system functional relationships" pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) and arc elements displayed at a graphical user interface on the workstation and selectable by the user whereby the user can position selected node elements in a user-defined arrangement and connect two or more of the selected node

elements (DOME: pg. 12) with one or more selected arc elements (Wells: pg. 519, table I, base topology) to create on the workstation the architectural description (DOME: pg.6, bullet 14) of the simulation of the real system;

d. a parameter data input window associated with at least some of the selected node (DOME: pg. A-8, Parameters) and arc elements, the parameter data input window allowing the user to associate parameter data with the selected node (DOME: pg. 12) and arc elements; and simulation architecture data files describing: the selected node and arc elements, the user defined arrangement of the node (DOME: pg. 14) and arc elements (Wells: pg. 519, table I, base topology), and the parameter data input by the user.

Claim 3: The system of claim 2 wherein the standardized set of node elements (DOME: pg. 14) further includes at least one simulation (Wells: pg. 509, lines 17-28) container representing in a single graphical node element (Wells: pg. 519, table I, base topology) a plurality of the real system components.

Claim 4: The system of claim 3 (Wells: pg. 509, lines 17-28) wherein the standardized set of node elements further includes a boundary node (DOME: pg. 14, Instruction 11).

Claim 5: A system for enabling a user to create on a computer workstation a visually displayed architectural description of a computer simulation of a real system comprising:

a. a standardized set of graphical node elements (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) representing each of a plurality of pre-defined real system components (Wells: pg. 508, right column lines 13-17) the real-system components including processes and real-system hardware associated with real-system (Dome: pg. 6, Domain Specific Notations);

b. a standardized set of graphical arc elements (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) representing each of a plurality of pre-defined timing, control, and data relationships that can be associated with the pre-defined timing real-system components wherein the pre-defined timing (Wells: pg. 509, right column, 1st paragraph) control, and data relationships represented by the standard set of graphical arc elements (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) include data transfer between process, synchronization between processes (Wells: pg. 512, left column, 4th paragraph “parallel execution”) and synchronization with data transfer between processes;

c. each of the graphical node elements (Dome: pg. 12) and arc elements (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines

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19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) displayed at the graphical user interface on the workstation and selectable by the user whereby the user can position selected mode elements in a user-defined arrangement and connect two or more of the selected node elements with one or more selected arc elements to create (Dome: pg. 12 and D-24) on the workstation the architectural description of the simulation of the real system;

d. a parameter data input window associated (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) with at least some of the selected node and arc elements, (Dome: pg.9) the parameter data input window allowing the user to link parameter data with the selected node and arc elements (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence); and

e. simulation architecture data files (Dome: pgs 24-25) describing the selected node and arc elements, the user defined arrangement of the node (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) and arc elements, and the parameter data input by the user.

Claim 6: The system of claim 5 wherein the standardized set of graphical (DOME: pg.12) arc elements (Wells: pg. 519, table 1, base topology) further includes a

communications container (DOME: pg. 41, Element Tools, line 5) representing in a single graphical arc element a plurality of the timing, control, and data relationships.

Claim 7: The system of claim 5 wherein the synchronization relationship (Wells: pg.514, left column, Task Allocation, lines 14-23) represented by one of the arc elements defines a synchronization (Wells: pg. 514, left column, Task Allocation, lines 14-23) mechanism between a first node element representing a source process and a second node element representing a destination process (DOME: pg. A-4, figure 31) and the parameter data that can be linked to the arc elements representing a synchronization mechanism includes a sync release time relative to execution time of the source process and a sync frequency.

Claim 8: The system of claim 7 wherein the source and destination processes (DOME: pg. A-4, figure 31) connected by an arc element representing a synchronization (Wells: pg. 514, left column, Task Allocation, lines 14-23) mechanism can each be periodic, aperiodic, or continuous (Wells: pg. 514, left column, Task Allocation, lines 14-3).

Claim 9: The system of claim 8 wherein the synchronization (Wells: pg. 514, left column, Task Allocation, lines 14-23) mechanisms associated with an arc element selected by the user are tested for selection of an illegal synchronization relationship (Wells: left column, lines 12-19) between node elements selected by the user.

Claim 10: The system of claim 9 wherein the illegal synchronization relationships (Wells: left column, lines 12-19) tested by the; system include:

- a. connecting a periodic; source process to a periodic destination (DOME: pg. A-4, figure 31) process with an arc element representing an aperiodic synchronization mechanism (Wells: pg. 514, left column, Task Allocation, lines 14-3);
- b. connecting an aperiodic source process to a periodic destination process with an arc element representing a synchronization mechanism (Wells: pg. 514, left column, Task Allocation, lines 14-3); and
- c. connecting to a single process (DOME: pg. 50, figure 22) with multiple arc elements (Wells: pg. 519, table 1, base topology) defining different synchronization mechanisms.

Claim 11: The system of claim 1 further comprising an output file generator operable to select and organize pre-defined portions (DOME: pg. 37, Document Generator) of the simulation architecture (Wells: pg. 519, table 1, base topology) data files into an electronic output file that can be used for generating computer code (DOME: pg. A-14) defining a computer simulation corresponding to the architectural description created by the user on the workstation.

Claim 12: A method of creating on a computer workstation a graphical description of the architecture of a simulation of a real world system comprising the steps of:

- a. selecting at a graphical user interface (DOME: pg.55, line 1 and pg.12; and Wells: pg. 519, table 1, base topology) one or more graphical node elements from a standardized set of graphical node elements displayed on the workstation, the selected node elements (Wells: pg. 514, left column, lines 8-12) representing pre-defined real system components, including processes and real system hardware, associated with the real system; wherein the real system components represented by the standardized set of node elements (Wells: pg. 519, table I, base topology) include external hardware devices, periodic processes, aperiodic processes and continuous processes (Wells: pg. 514, left column, Task Allocation, lines 14-3);
- b. selecting at the graphical user interface (DOME: pg.55, line 1 and pg.12; and Wells: pg. 519, table 1, base topology) one or more graphical arc elements from a standardized set of graphical arc elements displayed on the workstation (DOME: pg. 55), the selected arc elements representing pre-defined timing, control, and data relationships between the selected node elements (Wells: pg. 514, left column, lines 8-12);
- c. arranging on the graphical user interface the selected node elements (Wells: pg. 514, left column, lines 8-12) and connecting the selected node elements with the selected arc elements to create and display on the workstation (DOME: pg. 55) the architectural description of the simulation of the real system;

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d. entering at one or more parameter data input windows (DOME: pg.57, Window Option) associated with at least some of the selected node (Wells: pg. 514, left column, lines 8-12) and arc elements parameter data that further defines properties of the selected node and arc elements found in the real world system; and

e. saving, in one or more simulation architecture data files (DOME: pg.68, Saving and Printing), data about the selected node and arc elements, data about the user-defined arrangement of the node (Wells: pg. 514, left column, lines 8-12) and arc elements, and the parameter data input by the user.

Claim 13: The method of claim 12 further comprising the step of generating an output file containing selected portions of the simulation architecture data files (Wells: pg. 514, left column, lines 8-34; and DOME pg. 37, Document Generator).

Claim 15: The method of claim 13 wherein the standardized set of node elements (Wells: pg. 514, left column, lines 8-12) further includes at least one simulation container (DOME: pg. 41, Element Tools) representing in a single node element a plurality of the real system components.

Claim 16: The method of claim 15 wherein the standardized set of node elements (Wells: pg. 514, left column, lines 8-12) further includes a boundary node (DOME: pg. 14, Instruction 11).

Claim 17: A method of creating on a computer workstation a graphical description of the architecture (Dome: pg.9-12) of a simulation of a real-world system (Wells: pg. 508, right column, lines 5-22) comprising the steps of:

- a. selecting at a graphical user interface (Dome: pg.9-12) one or more graphical node elements from a standardized set of graphical node elements displayed on the workstation, the selected node elements representing pre-defined real system components, including processes and real system hardware associated with the real system (Wells: pg. 513, left column, 1st paragraph);
- b. selecting at the graphical user interface (Dome: pg.9-12) on or more graphical arc elements from a standardized set of graphical arc elements (Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) displayed on the workstation the selected arc elements representing pre-defined timing (Wells: pg. 509, right column, 1st paragraph), control, and data relationships between the selected node elements wherein the pre-defined timing, control and data relationships represented by the standardized set of arc elements include data transfer between processes, synchronization between processes (Wells: pg. 514, section VI Task Allocation, left column, lines 14-23), and synchronization with data transfer between process;
- c. arranging on the graphical user interface (Dome: pg.9-12) the selected node elements and connecting the selected node elements with the selected arc elements

(Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) to create and display on the workstation the architectural description of the simulation of the real system (Wells: pg. 511, left column, 1st paragraph);

d. entering at one or more parameter data input windows associated with at least some of the selected (Dome: pgs 9-20; Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) node and arc parameter data that further defines properties of the selected node and arc elements found in the real world system (Wells: pg. 511, left column, 1st paragraph); and

e. saving in one or more simulation architecture data files (Dome: pgs 9-23; Note: specification defines arc elements as “real system functional relationships” pg. 21, lines 19-20—Wells: pg. 508, right column 2nd paragraph, 1st sentence) about the selected node and arc elements data about the user defined arrangement of the node and arc elements and the parameter data input by the user.

Claim 18: The method of claim 17(DOME: pg.55, line 1and pg.12; and Wells: pg. 519, table 1, base topology) wherein the standardized set of arc elements further includes a communications container (DOME: pg.41, Element Tools) representing in a single arc

element a plurality of the timing, control, and data relationships (Wells: pg. 514, left column, lines 8-12).

Claim 19: The method of claim 17 wherein the synchronization relationship (Wells: pg. 514, left column, Task Allocation, lines 14-23) represented by one of the arc elements defines a synchronization mechanism between a first node element representing a source process and a second node element representing a destination process (DOME: pg. A-4, figure 31), and the parameter data that can be associated with the arc elements representing a synchronization mechanism includes a sync release time relative to an execution time of the source process and a sync frequency (Wells: pg. 512, 3rd paragraph, lines 1-19 and pg. 518, right column, lines 1-3).

Claim 20: The method of claim 19 wherein the source and destination processes (DOME: pg. A-4, figure 31) connected by an arc element representing a synchronization mechanism can each be periodic, aperiodic, or continuous (Wells: pg. 514, left column, Task Allocation, lines 14-23).

Claim 21: The method of claim 20 further comprising automatically testing the synchronization mechanisms (Wells: pg. 512, left column, 3rd paragraph, lines 1-19) associated with selected arc elements for use of an illegal synchronization relationship between selected node elements.

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Claim 22: The method of claim 21 wherein the illegal synchronization relationships (Wells: left column, 3rd paragraph, lines 12-19) tested include: a connecting a periodic source process to a periodic destination process (DOME: pg. A-4, figure 31) with an arc synchronization mechanism;

b. connecting an aperiodic source process to a periodic destination process (DOME: pg. A-4, figure 31) with an arc element representing a synchronization mechanism (Wells: pg. 518, left column, lines 11-22); and

c. connecting to a single process with multiple arc elements (Wells: pg. 519, Table I, Base Topology) defining different synchronization mechanisms.

Claim 23: The method of claim 13 further comprising organizing data in the output file (DOME: pg. 37, Document Generator; and Wells: pg. 514, left column, lines 8-34) for use in generating computer code defining a computer simulation corresponding to the architectural description created by the user on the workstation.

Claim 24: A system for creating a graphical representation of the architecture of a computer simulation of a real world system comprising (Wells: pg. 508, right column, lines 5-13):

a. a computer workstation having a processor, display, keyboard, an operating system causing the processor (Wells: pg. 514, lines 8-12) to generate a cursor on the

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display, a pointing device for manipulating the cursor on the display (DOME: D-16), and a data storage device;

b. a first software module (DOME: pg. A-14, lines 26-27) generable to generate a graphical user interface on the display;

c. a second software module operable to display on the graphical user interface a pre-defined set of graphical node elements (Wells: pg. 514, left column, lines 8-12), the node elements representing pre-defined (Wells: pg. 514, Task Allocation) real system components, the real system components including processes and real system hardware associated with the real system (DOME: pg. 6, line 29), wherein the real system components represented by the standardized set of node elements include external hardware devices, periodic process; aperiodic process and continuous processes.

d. a third software module operable to display on the graphical user interface a pre-defined set of graphical arc elements (Wells: pg.519, Table I, Base Topology), the arc elements representing pre-defined timing, control, and data relationships that can be associated with the real system (DOME: pg. 6, line 29) components, wherein the pre-defined timing, control and data relationships represented by the standardized set of arc elements include data transfer between process, synchronization between process, and synchronization with data transfer between process;

e. the second software module further operable to allow the user, using the pointing device(DOME: D-16), to select one or more of the node elements and position the selected node elements in a user-defined (DOME: pg. 6, line 15)arrangement on the display corresponding to the simulation architecture;

f. the third software module further operable to allow the user, using the pointing device(DOME: D-16), to select one or more of the arc elements and position the selected arc elements (Wells: pg.519, Table I, Base Topology)on the display to connect the selected and positioned node elements so as to associate one of the pre-defined timing (Wells: pg. 510, left column lines 37-39), control, and data relationships with the node elements connected by the selected arc elements;

g. a fourth software module operable, in conjunction with the graphical user interface, to open parameter data input windows (DOME: pg. 9, figure 2) linked to one or more of the selected node (DOME: pg. 12) and arc elements (Wells: pg.519, Table I, Base Topology), and receive from the user parameter data further defining properties (DOME: pg. 45) of the linked node and arc elements; and

h. the operating system further operable to store on the data storage device (Dome: pg. 23) simulation architecture data files containing data representing: the selected node and arc elements(Wells: pg.519, Table I, Base Topology), the arrangement of the selected node elements, the connection of the selected node elements by the selected

arc elements, and the parameter data input by the user (DOME: pgs 45, 53 and 65 (figure 28)).

Claim 25: The system of claim 24 further comprising an output file generator module (DOME: pg. 37, document generator) operable to select and organize pre-defined portions of the simulation architecture data files into an electronic output file that can be used for generating computer code that defines a computer simulation (Wells: pg. 514, left column, lines 8-34) corresponding to the architectural description created by the user on the workstation.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

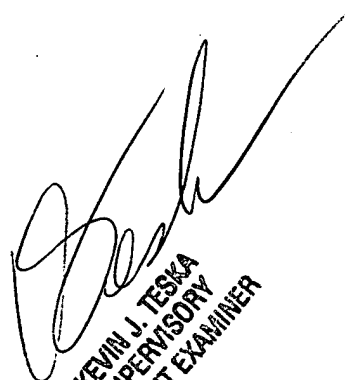
Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Kevin Teska at (571) 272-3716. Fax number is 571-273-3715

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (571)272-1400

December 18, 2004

THS



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER